

1. (currently amended) A process for removing  $\text{SO}_2$ ,  $\text{NO}$ , and  $\text{NO}_2$  from a gas stream comprising the steps of
  - a. oxidizing at least a portion of  $\text{NO}$  in a gas stream to  $\text{NO}_2$  with an oxidizing means resulting in a mole ratio of  $\text{SO}_2$  to  $\text{NO}_2$  of at least 2.5 to 1, followed by
  - b. scrubbing at least a portion of  $\text{SO}_2$ ,  $\text{NO}$ , and  $\text{NO}_2$  from the gas stream with a scrubbing solution  
comprising ammonia, and  
having a pH between 6 and 8, and
  - c. removing at least a portion of any ammonia aerosols generated from the scrubbing step from the gas stream with an aerosol removal means.
2. The process of claim 1, wherein said oxidizing means is an electrical discharge reactor.
3. The process of claim 2, wherein said electrical discharge reactor is a dielectric barrier discharge reactor.
4. The process of claim 3, further comprising the step of oxidizing at least a portion of the  $\text{NO}$  to  $\text{HNO}_3$  with said dielectric barrier discharge reactor.
5. (canceled)

6. The process of claim 1, wherein said oxidizing step is adapted to result in a mole ratio of  $\text{SO}_2$  to  $\text{NO}_2$  of at least four to one.
7. The process of claim 1, said scrubbing solution  
comprising ammonia, ammonium sulfite, ammonium sulfate, and water, and  
having a pH between 6 and 8.
8. The process of claim 1, wherein said aerosol removal means is a wet electrostatic precipitator.
9. The process of claim 1, wherein said scrubbing step results in the formation of ammonium sulfate, the process further comprising the step of withdrawing ammonium sulfate from the scrubbing solution.
10. The process of claim 4, wherein said scrubbing step results in the formation of ammonium nitrate, the process further comprising the step of withdrawing ammonium nitrate from the scrubbing solution.
11. A process for removing  $\text{SO}_2$ , NO,  $\text{NO}_2$ , and Hg from a gas stream comprising the steps of
  - a. oxidizing at least a portion of the NO in a gas stream to  $\text{NO}_2$ , and at least a portion of the Hg in a gas stream to  $\text{HgO}$ , with an oxidizing means, followed by

- b. scrubbing at least a portion of the SO<sub>2</sub>, NO, and NO<sub>2</sub> from the gas stream with a scrubbing solution
    - comprising ammonia, and
    - having a pH between 6 and 8, and
  - c. removing at least a portion of any ammonia aerosols generated from the scrubbing step, and HgO, from the gas stream with an aerosol removal means.
- 12. The process of claim 11, wherein said oxidizing means is an electrical discharge reactor.
- 13. The process of claim 12, wherein said electrical discharge reactor is a dielectric barrier discharge reactor.
- 14. The process of claim 11, wherein said aerosol removal means is a wet electrostatic precipitator.
- 15. The process of claim 11, said scrubbing solution
  - comprising ammonia, ammonium sulfite, ammonium sulfate, and water, and
  - having a pH between 6 and 8.
- 16. The process of claim 15, wherein said scrubbing step results in the formation of ammonium sulfate, the process further comprising the step of withdrawing ammonium sulfate from the scrubbing solution.

17. (withdrawn)

18. (withdrawn)

19. (withdrawn)

20. (withdrawn)

21. (withdrawn)

22. (withdrawn)

23. (withdrawn)

24. (withdrawn)

25. (withdrawn)

26. (withdrawn)

27. (withdrawn)

28. (withdrawn)

29. (withdrawn)